

Notice of Allowability

Application No.

10/033,586

Examiner

Vitali Korobov

Applicant(s)

ADAR ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to an Amendment filed on 05/19/06.
2. ☒ The allowed claim(s) is/are 1-6, 28, 30 and 35-50, renumbered as 1-24.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


SALEH NAJJAR
SUPERVISORY PATENT EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this Examiner's amendment was given in a telephone interview with the Attorney for the Applicant Thomas Zell, Reg. No. 37,481 on August 3rd, 2006.

3. The application has been amended as follows:

(A) In the Claims:

1. (Currently Amended): A machine-implemented method for extrapolating user profile information from user web page access patterns, comprising:

detecting a set of web pages accessed by a test user having an unknown user profile attribute;

mapping at least a subset of said detected web pages to a first data structure, said first data structure representing a web page access pattern of said test user;

comparing said first data structure to a plurality of a second data structure to obtain a comparison result, the plurality of said second data structure representing clusters of web page access patterns of a sample data set of users having a known user profile attribute in common;

evaluating based on said comparison result the plurality of said second data

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structure and said first data structure to identify a second data structure matching the web page access pattern of the first data structure; and

assigning said unknown user profile attribute of said test user from the matching second data structure to said test user;

wherein the known user profile attribute in common of the sample data set of users corresponds to the unknown user profile attribute of said test user;

wherein said first and second data structures are multi-dimensional vectors; and

wherein each dimension of said first and said second multi-dimensional vectors corresponds to a separate web page.

2. (Currently Amended): The method of claim 1, ~~wherein said first and second data structures are multi-dimensional vectors, wherein each dimension of said first and said second multi-dimensional vectors corresponds to a different web page, and wherein each dimension of said second data structure corresponds to an average of user multi-dimensional vectors in its corresponding cluster.~~

3. (Previously Presented): The method of claim 2, wherein said comparing further comprises determining a distance between said multi-dimensional vectors.

4. (Previously Presented): The method of claim 3, wherein said determining further comprises computing a cosine of an angle between said multi-dimensional vectors.

5. (Previously Presented): The method of claim 2, wherein said unknown

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user profile attribute is demographic information.

6. (Previously Presented): The method of claim 5, wherein said demographic information is gender information of the test user.

Claims 7-27. (Canceled).

28. (Currently Amended): An apparatus, comprising:

a memory, said memory adapted to store program code;

a processor in communication with said memory, said program code capable of programming said processor to perform a method for extrapolating user profile information from user web page access patterns, the method comprising:

detecting a set of web pages accessed by a test user having an unknown user profile attribute;

mapping at least a subset of said detected web pages to a first data structure, said first data structure representing a web page access pattern of said test user;

comparing said first data structure to a plurality of a second data structure to obtain a comparison result, the plurality of said second data structure representing clusters of web page access patterns of a set of users having a known user profile attribute in common;

evaluating based on said comparison result the plurality of said second data structure and said first data structure to identify a second data structure matching the web page access pattern of the first data structure; and

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assigning said unknown user profile attribute of said test user from the matching second data structure to said test user;

wherein the known user profile attribute in common of the sample data set of users corresponds to the unknown user profile attribute of said test user;

wherein said first and second data structures are multi-dimensional vectors; and

wherein each dimension of said first and said second multi-dimensional vectors corresponds to a separate web page.

29. (Canceled)

30. (Currently Amended): A processor readable storage medium, comprising:

processor readable program code embodied on said processor readable storage medium, said processor readable program code for programming a processor to perform a method for extrapolating user profile information from user web page access patterns, the method comprising:

detecting a set of web pages accessed by a test user having an unknown user profile attribute;

mapping at least a subset of said detected web pages to a first data structure, said first data structure representing a web page access pattern of said test user;

comparing said first data structure to a plurality of a second data structure to obtain a comparison result, the plurality of said second data structure representing

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clusters of web page access patterns of a sample data set of users having a known user profile attribute in common;

evaluating based on said comparison result the plurality of said second data structure and said first data structure to identify a second data structure matching the web page access pattern of the first data structure; and

assigning said unknown user profile attribute of said test user from the matching second data structure to said test user;

wherein the known user profile attribute in common of the sample data set of users corresponds to the unknown user profile attribute of said test user;

wherein said first and second data structures are multi-dimensional vectors;

wherein each dimension of said first and said second multi-dimensional vectors corresponds to a separate web page.

Claims 31-34. (Canceled)

35. (Previously Presented): The method of claim 5, wherein said demographic information is age information of the test user.

36. (Previously Presented): The method of claim 2, wherein the multi-dimensional vectors are weighted to dampen disparity between how many time web pages are access by different users.

37. (Currently Amended): The apparatus of claim 28, ~~wherein said first~~

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~~and second data structures are multi-dimensional vectors, wherein each dimension of said first and said second multi-dimensional vectors corresponds to a different web page, and wherein each dimension of said second data structure corresponds to an average of user multi-dimensional vectors in its corresponding cluster.~~

38. (Previously Presented): The apparatus of claim 37, wherein said comparing further comprises determining a distance between said multi-dimensional vectors.

39. (Previously Presented): The apparatus of claim 38, wherein said determining further comprises computing a cosine of an angle between said multi-dimensional vectors.

40. (Previously Presented): The apparatus of claim 37, wherein said unknown user profile attribute is demographic information.

41. (Previously Presented): The apparatus of claim 40, wherein said demographic information is gender information of the test user.

42. (Previously Presented): The apparatus of claim 40, wherein said demographic information is age information of the test user.

43. (Previously Presented): The apparatus of claim 37, wherein the multi-dimensional vectors are weighted to dampen disparity between how many time web pages are access by different users.

44. (Currently Amended): The processor readable storage medium of claim 30, ~~wherein said first and second data structures are multi-dimensional vectors,~~

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~~wherein each dimension of said first and said second multi-dimensional vectors corresponds to a different web page, and~~ wherein each dimension of said second data structure corresponds to an average of user multi-dimensional vectors in its corresponding cluster.

45. (Previously Presented): The processor readable storage medium of claim 44, wherein said comparing further comprises determining a distance between said multi-dimensional vectors.

46. (Previously Presented): The processor readable storage medium of claim 45, wherein said determining further comprises computing a cosine of an angle between said multi-dimensional vectors.

47. (Previously Presented): The processor readable storage medium of claim 44, wherein said unknown user profile attribute is demographic information.

48. (Previously Presented): The processor readable storage medium of claim 47, wherein said demographic information is gender information of the test user.

49. (Previously Presented): The processor readable storage medium of claim 47, wherein said demographic information is age information of the test user.

50. (Previously Presented): The processor readable storage medium of claim 44, wherein the multi-dimensional vectors are weighted to dampen disparity between how many time web pages are access by different users.

REASONS FOR ALLOWANCE

4. The following is the Examiner's statement of reasons for allowance:

Pending claims 1-6, 28, 30 and 35-50, renumbered as claims 1-24, with the foregoing amendments incorporated hereinto are allowed over the prior art of record.

The Examiner has found that the prior art of record does not teach or suggest or render obvious the claimed limitations in combination with the proposed amendments and specific added limitations as recited in independent claims and subsequent dependent claims.

One such prior art of record is a U. S. Patent No. 5,991,735 issued to Gerace, hereinafter Gerace. Gerace teaches a computer network method and apparatus wherein a determination is performed of a psychographic or behavioral profiles of the end users. The psychographic profile is formed by recording computer activity and viewing habits of the end user. Content of categories of interest and display format in each category are revealed by the psychographic profile, based on user viewing of information. Using the profile (with or without additional user demographics), and based on a regression analysis of recorded responses of a first set of users viewing the advertisements, the target user profile is refined.

Another such prior art of record is a U. S. Patent Application Publication No. 2003/0018636 by Chi et al., hereinafter Chi. Chi teaches techniques for determination of user profiles based on identifying user paths through a website, using multi-modal information need vector and subsequently performed multi-modal clustering. Based on

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this determination, the web site designer is provided with an indication of the types of user profiles using the document collection or a web site.

As seen from the above references, the prior art of record does not teach or suggest or render obvious the Applicants' techniques for determination of an unknown user profile attribute based on matching of a data structure corresponding to a known user to that of an unknown user, wherein these data structures are multi-dimensional vectors, and wherein each dimension of these multi-dimensional vectors corresponds to a separate web page.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance and/or Examiner's Amendment."

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Vitali Korobov whose telephone number is 571-272-7506. The examiner can normally be reached on Mon-Friday 8a.m. - 4:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571)272-4006. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vitali Korobov
Examiner
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VAK
08/04/06


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